Active Project (2013 - 2016)

Manufacturing Initiative Project

Game Changing Development Program | Space Technology Mission Directorate (STMD)

ANTICIPATED BENEFITS

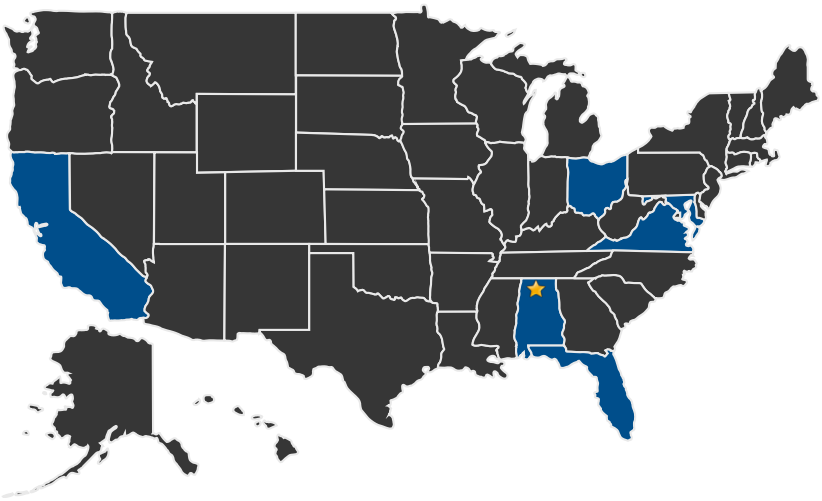
To NASA funded missions:

Greater affordability and performance for NASA missions.

DETAILED DESCRIPTION

The AMT Project supports multiple activities within the Administration's National Manufacturing Initiative. A key component of the Initiative is the Advanced Manufacturing National Program Office (AMNPO), which includes participation from all federal agencies involved in U.S. manufacturing. In support of the AMNPO the AMT Project supports building and Growing the National Network for Manufacturing Innovation through a public-private partnership designed to help the industrial community accelerate manufacturing innovation.

U.S. WORK LOCATIONS AND KEY PARTNERS

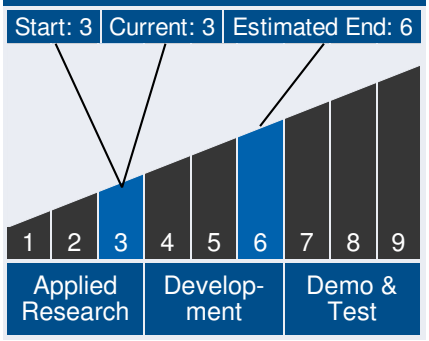


U.S. States With Work

Lead Center:
Marshall Space Flight Center

Table of Contents

Technology Maturity



Management Team

Program Executive:
- Lanetra Tate

Program Manager:
- Mary Wusk

Continued on following page.

Other Organizations Performing Work:

- Department of Commerce
- Department of Defense
- Department of Energy
- National Science Foundation
- U.S. Department of Agriculture

Management Team *(cont.)*

Project Manager:

- John Vickers

Principal Investigator:

- Lanetra Tate

Technology Areas

Primary Technology Area:
Materials, Structures, Mechanical Systems and Manufacturing (TA 12)
└ Manufacturing (TA 12.4)
└ Intelligent Integrated Manufacturing and Cyber Physical Systems (TA 12.4.2)
└ Digital and Model-Based Manufacturing (TA 12.4.2.1)
└ Digital and Model-Based Manufacturing (TA 12.4.2.1)

DETAILS FOR TECHNOLOGY 1

Technology Title

Advanced Manufacturing Technologies: Manufacturing Initiative

Technology Description

This technology is categorized as an architecture for unmanned spaceflight

The National Network for Manufacturing Innovation (NNMI) will be built through a public-private partnership designed to help the industrial community rapidly commercialize manufacturing innovation in part by sharing the financial risk of developing advanced manufacturing technologies capable of accelerating product introduction, lowering product costs and improving product

performance.

NASA will support the regional IMI's to provide access to an innovation ecosystem consisting of a broad array of technologies, collaborations and resources for rapidly advancing middle-stage research and development (i.e. an industrial commons).

NASA will support specific activities of the regional IMIs to include:

1. Capture greater value from early-stage US research investments by enabling manufacturing scale-up and commercialization in the US.

2. Retain production in the US thereby providing insight into next generation, high-value products leading to future high-wage and highly skilled jobs in the US.

3. Lower the financial risk associated with manufacturing R&D by leveraging public and private investment and spreading costs and risks among industrial partners.

4. Generate hands-on advanced manufacturing internships and learning and training opportunities for students and those seeking to re-enter the workforce.

5. Coordinate and build strategic partnerships between federal, state, university, community college, and industrial entities to make each more productive in advancing regional and national manufacturing agendas and policies.

6. Provide small and medium-sized enterprises (including large corporate supply chain partners) virtual and physical proximity to nascent manufacturing expertise in high-performance computing, manufacturing equipment and research laboratories currently beyond their reach.

The NNMI will coordinate capabilities across regional IMIs providing companies with access to a talented, diverse, and high-performance workforce and the best technology and practices to address their production challenges.

Network-wide benefits of the NNMI include the ability to:

1. Maximize the innovative outcome of the NNMI investment by coordinating multi-IMI responses to industry problems.

2. Network with trusted scientists, engineers and technicians in the most relevant focus areas to drive innovation and accelerate technology breakthroughs and their assimilation to industry.

3. Identify and coordinate the sharing of IMI best practices in service to industry needs.

4. Support the rapid growth of an advanced manufacturing workforce by coordinating the development of educational resources between regions.

5. Bring about greater employment opportunities for the US workforce and help companies to find and retain the best people by disseminating internship and employment opportunities.

Capabilities Provided

Overall manufacturing competitiveness

Potential Applications

Additive manufacturing, lightweight metals, composites, electronics, digital manufacturing, etc.